

### Abstract

The ion beam irradiation apparatus has a vacuum chamber 10, an ion source 2, a substrate driving mechanism 30, rotation shafts 14, arms 12, and a motor. The ion source 2 is disposed inside the vacuum chamber 10, and emits an ion beam 4 which is larger in width than a substrate 6, to the substrate 6. The substrate driving mechanism 30 reciprocally drives the substrate 6 in the vacuum chamber 10. The center axes 14a of the rotation shafts 14 are located in a place separated from the ion source 2 toward the substrate, and substantially parallel to the surface of the substrate. The arms 12 are disposed inside the vacuum chamber 10, and support the ion source 2 through the rotation shafts 14. The motor is disposed outside the vacuum chamber 10, and reciprocally rotates the rotation shaft 14.

**BEST AVAILABLE COPY**